



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,584	09/26/2003	Richard C. Waters		8645

7590 11/02/2006

Patent Department
Mitsubishi Electric Research Laboratories, Inc.
201 Broadway
Cambridge, MA 02139

EXAMINER

DESIR, JEAN WICEL

ART UNIT PAPER NUMBER

2622

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,584

Applicant(s)

WATERS ET AL.

Examiner

Jean W. Désir

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 16-26, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 7-15, 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 19, 20, 25, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al (US 6,836,298).

Claim 1:

Song discloses:

“a cathode ray tube mounted inside an enclosure, the cathode ray tube configured to project output images onto a rear projection screen using an electron beam”, see Fig. 4 items 25, 26;

“a camera, mounted inside the enclosure, the camera configured to acquire an input image of a calibration pattern displayed on the rear projection screen by the cathode ray tube”, see Fig. 4 item 27;

“means, coupled to the camera, for measuring a distortion in the input image; and means, coupled to the cathode ray tube, for converging the output images by adjusting signals controlling the electron beam according to the distortion”, see Fig. 4 items 29, 24;

the difference between the claimed invention and Song's disclosure is that Song does not explicitly say that the camera is **mounted inside the enclosure** where the cathode ray tube is mounted. However, the claimed invention would have been obvious to an artisan, because the camera mounted inside the enclosure would be an obvious matter of design choice, a mere rearrangement of parts that would not have modified the operation of Song's disclosure. Therefore, the claimed invention would have been obvious to a person of ordinary skill in the art at the time the invention was made.

Claim 2 is also obvious to an artisan, because Song teaches a plurality of cathode ray tubes or CRTs (see col. 1 lines 39-55).

Claims 3, 4 are disclosed, see col. 5 lines 5-7, 18-22.

Claim 19 is disclosed, see Fig. 4 items 24, 25, 26.

Claim 20: minimizing burn-in as claimed in claim 20 is not explicitly disclosed by Song. However, Official Notice is taken that technique for minimizing burn-in is a notoriously well known technique in the art used in display system for preventing burn-in; an artisan would be motivated to implement this existing technique in Song's disclosure in order to minimize burn-in.

Claim 25 is disclosed, See Fig. 4 items 27, 29, 24, 26.

Claim 29 is rejected for the same reasons as claims 1 and 2.

3. Claims 5, 6, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al (US 6,836,298) in view of Duwaer (US 4,835,602).

Claim 5:

Song does not explicitly say that the calibration pattern is a **checkerboard** of rectangles as claimed in claim 5. However, Song discloses that the calibration pattern is a grid image that has pattern of rectangles (see Fig. 6), and Duwaer shows (see Fig. 9, col. 7 lines 8-14) that using checkerboard of rectangles as calibration pattern is a notoriously well known technique in the art used for purpose of correcting convergence errors; thus, because of these teachings, an artisan would be motivated to modify Song's disclosure and implement this existing technique to arrive at the claimed invention. Therefore, the claimed invention would have been obvious to a person of ordinary skill in the art at the time the invention was made.

Claim 6 is disclosed, because of the mathematical transformation/translation and/or displacement operations involving in Song's disclosure (see Song at col. 9 line 37 to col. 10 line 44, see also col. 13).

Claim 16 is disclosed, see Song at col. 9 line 37 to col. 10 line 40, col. 13 lines 9-34.

4. Claims 17, 18, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al (US 6,836,298) in view of Iwai et al (US 6,816,187).

Claim 17:

Song does not teach calibration pattern to calibrate the camera as claimed in claim 17. However, Iwai teaches the claimed invention, see Iwai at col. 9 lines 1-3, col. 1 lines 9-18; an artisan would be motivated to combine the references to arrive at the claimed invention, this combination would advantageously calibrate the camera. Therefore, the claimed invention would have been obvious to a person of ordinary skill in the art at the time the invention was made.

Claim 18 is disclosed, see Song at Fig. 4 items 25, 26, 27.

Claim 26 is also obvious, because Iwai teaches that the calibration patterns are not particularly limited by their sizes (see Iwai at col. 12 lines 14-15).

5. Claims 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al (US 6,836,298) in view of Ersoz et al (US 5,311,309).

Song does not explicitly teach **letterbox format** as claimed in claims 21, 22. However, letterbox format is a notoriously well known technique in the art used in different format display ratio signals (as evidence see Ersoz at Fig. 1(a), col. 1 lines 6-14, col. 4 line 44 to col. 5 line 34). Thus, an artisan would be motivated to implement this existing technique in Song's disclosure to arrive at the claimed invention.

6. Claims 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al (US 6,836,298) in view of Honig et al (US 6,979,087).

Song does not explicitly teach **laser pointer** as claimed in claims 23, 24. However, the structure of the claimed invention is notoriously well known in the art, as evidence see Honig at Figs. 1-3 items 18, 28; an artisan would be motivated to combine the references to arrive at the claimed invention, this combination would provide a system to control the output images through laser pointer.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al (US 6,836,298) in view of Funston et al (US 7,015,955).

Song does not explicitly teach measuring of **ambient light** and **adjusting intensity** of images as claimed in claim 28. However, the structure of the claimed invention is notoriously well in the art, as evidence see Funston at col. 18 lines 9-19,

col. 4 lines 5-10; an artisan would be motivated to combine the references to arrive at the claimed invention, this combination would provide a system that measures the ambient light and adjusts intensity of the images accordingly.

Claim Objections

8. Claim 8 is objected to because of the following informalities: claim 8 depends on itself. Appropriate correction is required.

Note: claim 8 has been considered as depended on claim 7.

Allowable Subject Matter

9. Claims 7-15, 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean W. Désir whose telephone number is (571) 272 7344. The examiner can normally be reached on 5/4/9 - First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272 7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD
Oct. 20, 06



DAVID OMETZ
SUPERVISORY PATENT EXAMINER